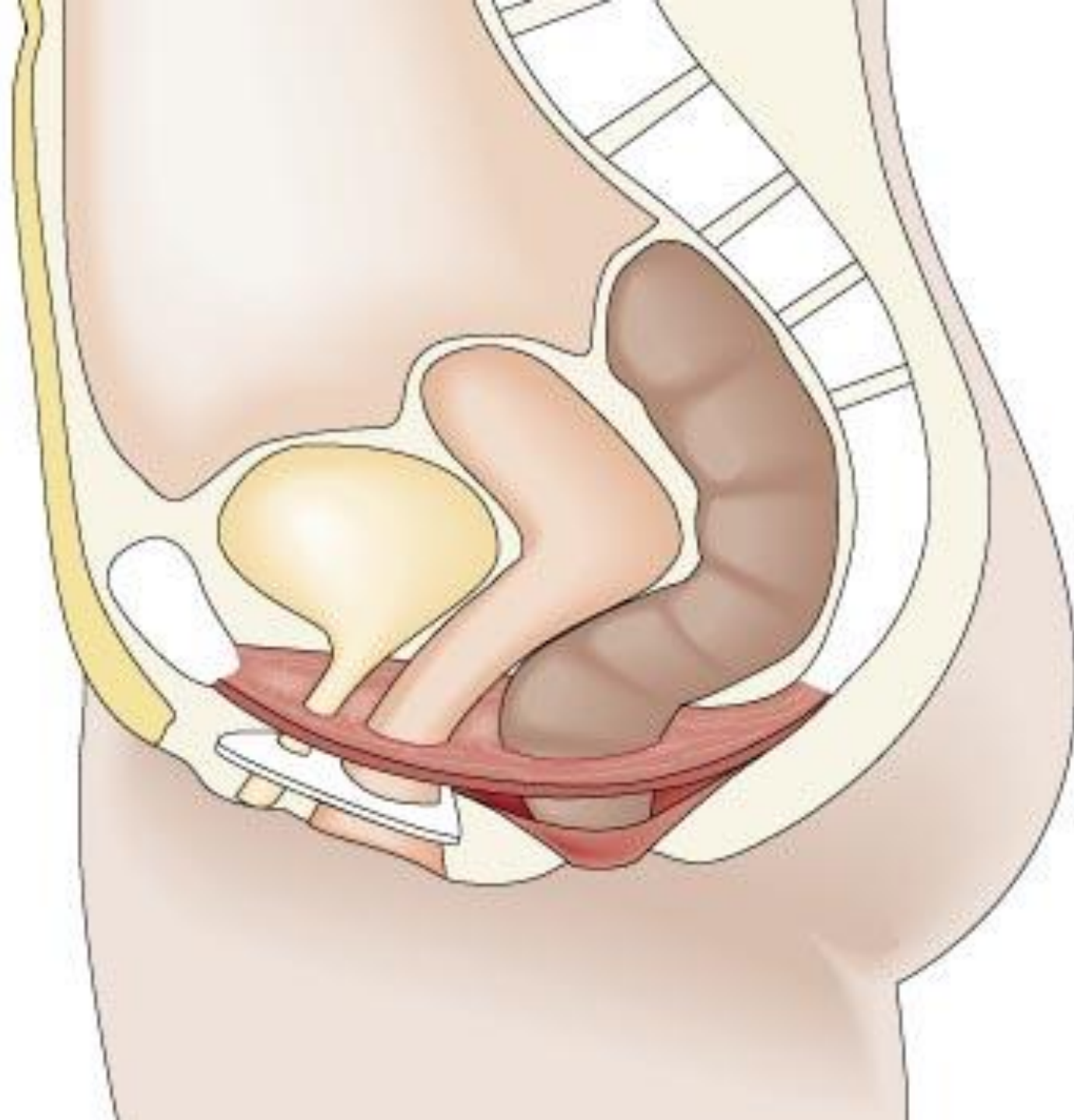


# PELVIC ORGAN PROLAPSE TYPES AND STAGES

Ayman AL Qatawneh  
University of Jordan  
Gynaecology Department





# Pelvic Organ Prolapse Etiology

- **PARITY** The strongest risk factor

Oxford Family Planning Association Study 1997

- **Increasing Parity and Maximum Birth Weight**

Samuelsson EC Am J Obs Gyn 1999

Rinne KM Eur J obs Gyn 1999

Swift SE Am J Obs Gyn 2000

- **C/Section as effective as Kegel Exercises.**

Taskin O J Gynecol Surg 1996

# Pelvic Organ Prolapse Etiology

- AGE and MENOPAUSE. Conflicting.

Significant increased risk. Swift SE 2000

No relation. Olsen AL 1997

Progetto Menopause italian study 2000

# Pelvic Organ Prolapse Etiology

- Constipation and Straining.

A Case-Control Study.

61% of women with Constipation and Straining will develop POP.

4% of women with NO Constipation and Strain will develop POP.

Spence-Jones C Br J Obstet Gynecol 1994

# Pelvic Organ Prolapse Etiology

- HEAVY LIFTING
- OBESITY
- CHRONIC PULMONARY DISEASE  
(increase abdominal pressure)

# Pelvic Organ Prolapse Etiology

- HYSTERECTOMY.

11.6% risk ( Prolapse)

1.8% risk ( Non Prolapse )

Marchionni M J Reprod Med 1999

- Colposuspension (Enterocele) Wiskind Am J 1992
- Sacrospinous Fixation (anterior compartment prolapse) Bump RC Am J Obs Gyn 1996

# Pelvic Organ Prolapse Etiology

- Vaginal Route > Abdominal.

Damage to pudendal nerve.

Benson JT Am J Obs Gyn 1996

- Vaginal = Abdominal

Maher CF Qatawneh Am J 2004

# Pelvic Organ Prolapse Etiology

## **Collagen Abnormalities.**

- C.T. disorder associated prolapse
- women genital prolapse ↑ joint hyper mobility
- women genital prolapse > proportion type 111 (weaker but flexible) collagen than type 1
- ↓ total collagen, ↑ collagenase, elastolytic

# *Epidemiology of Surgery for Pelvic Organ Prolapse*



1. 50% of women develop prolapse  
10-20% of these seek medical treatment  
(Beck 1983)
2. 11.1% lifetime risk of a single operation for pelvic  
organ prolapse and or urinary incontinence  
**29.2% reoperation**  
(Olsen 1997)

# Mechanism of normal supports of Uterus and Vagina

## Interaction between :

- **Pelvic muscles** ( Levator Ani group)

Primary support gives a firm elastic base on which organs rest.

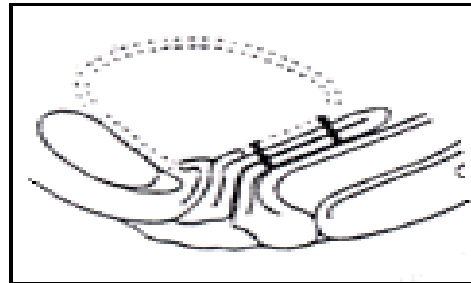
## 2. **Connective Tissue**

Stabilize the organs in Correct position

What happens during Micturition and Defecation?

# Mechanism of normal supports of Uterus and Vagina

- Levels of vaginal supports.
  1. Level I . Cardinals and Uterosacrals
  2. Level II. Arcus Tendineus(white line)
  3. Level III. Perineal memb. and Body

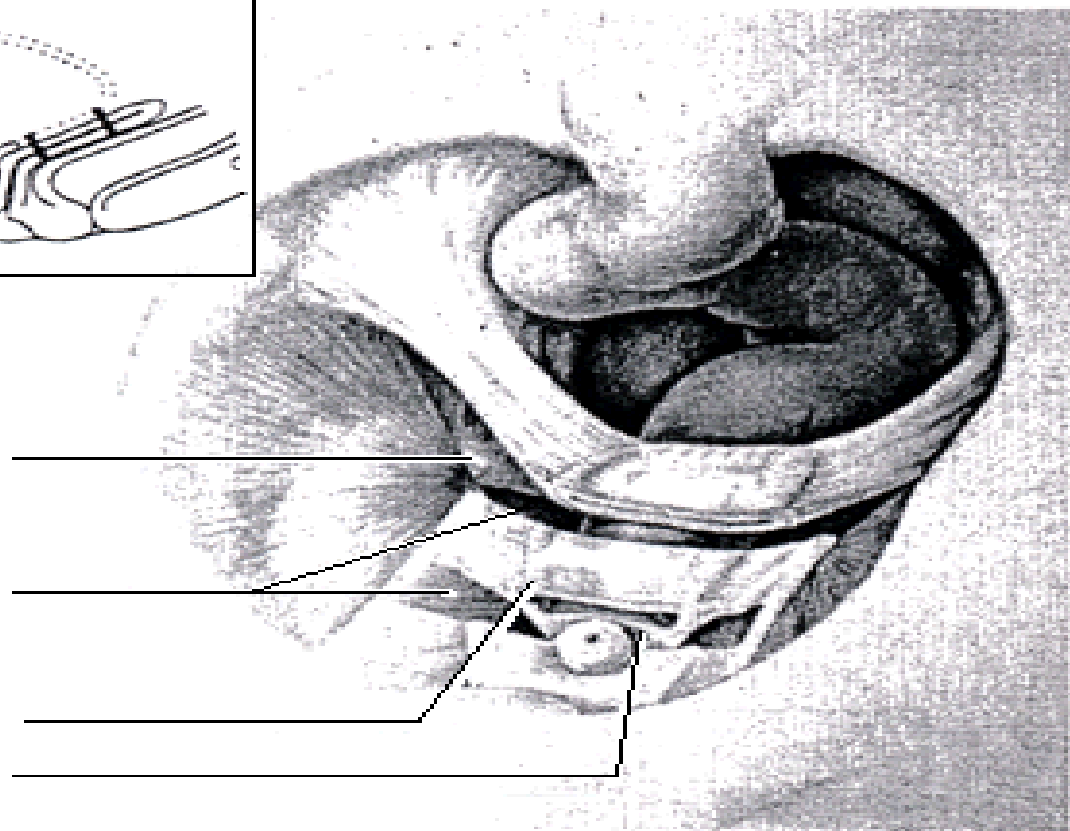


Ischial spine &  
sacrospinous ligament

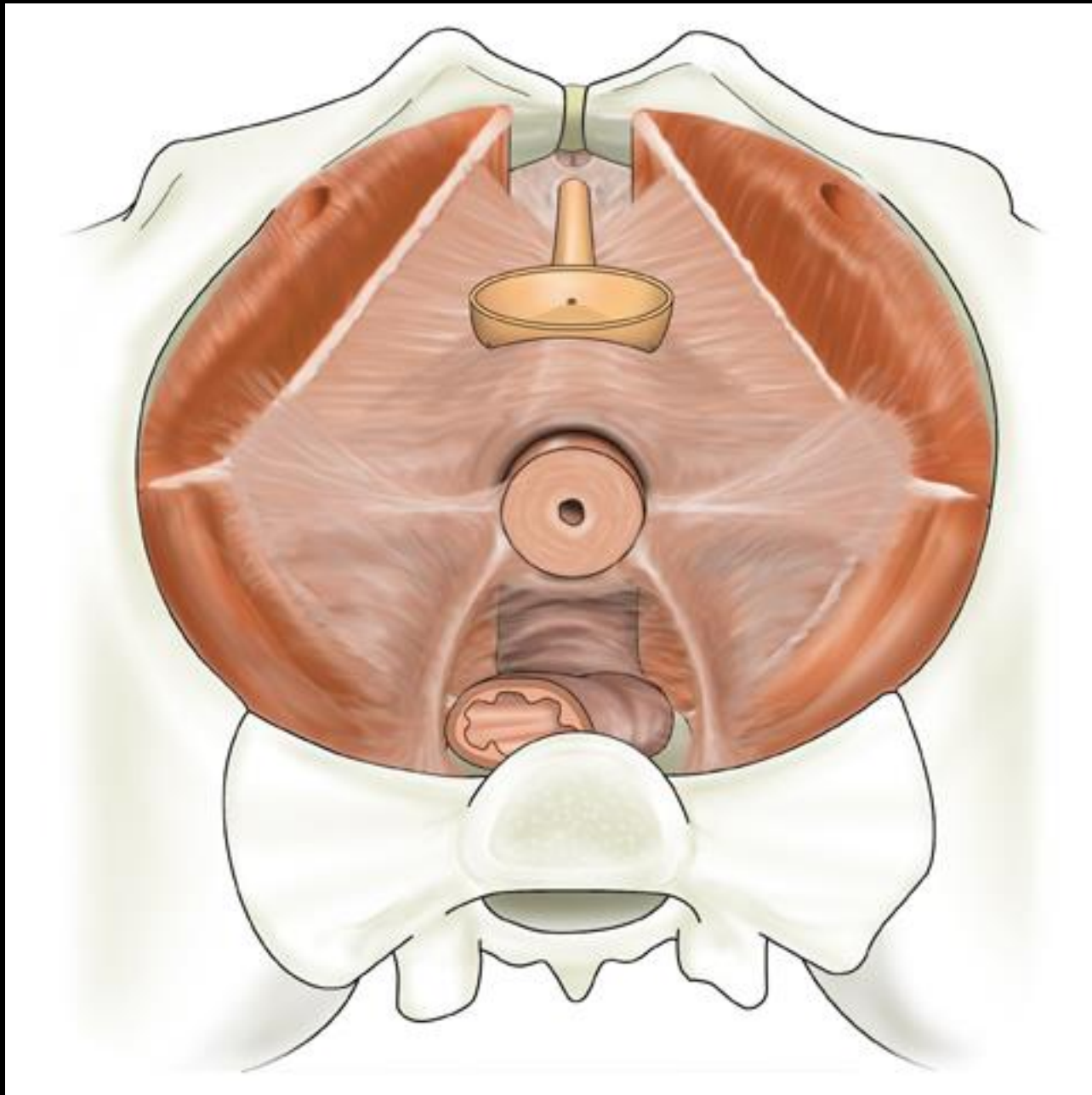
Levator ani

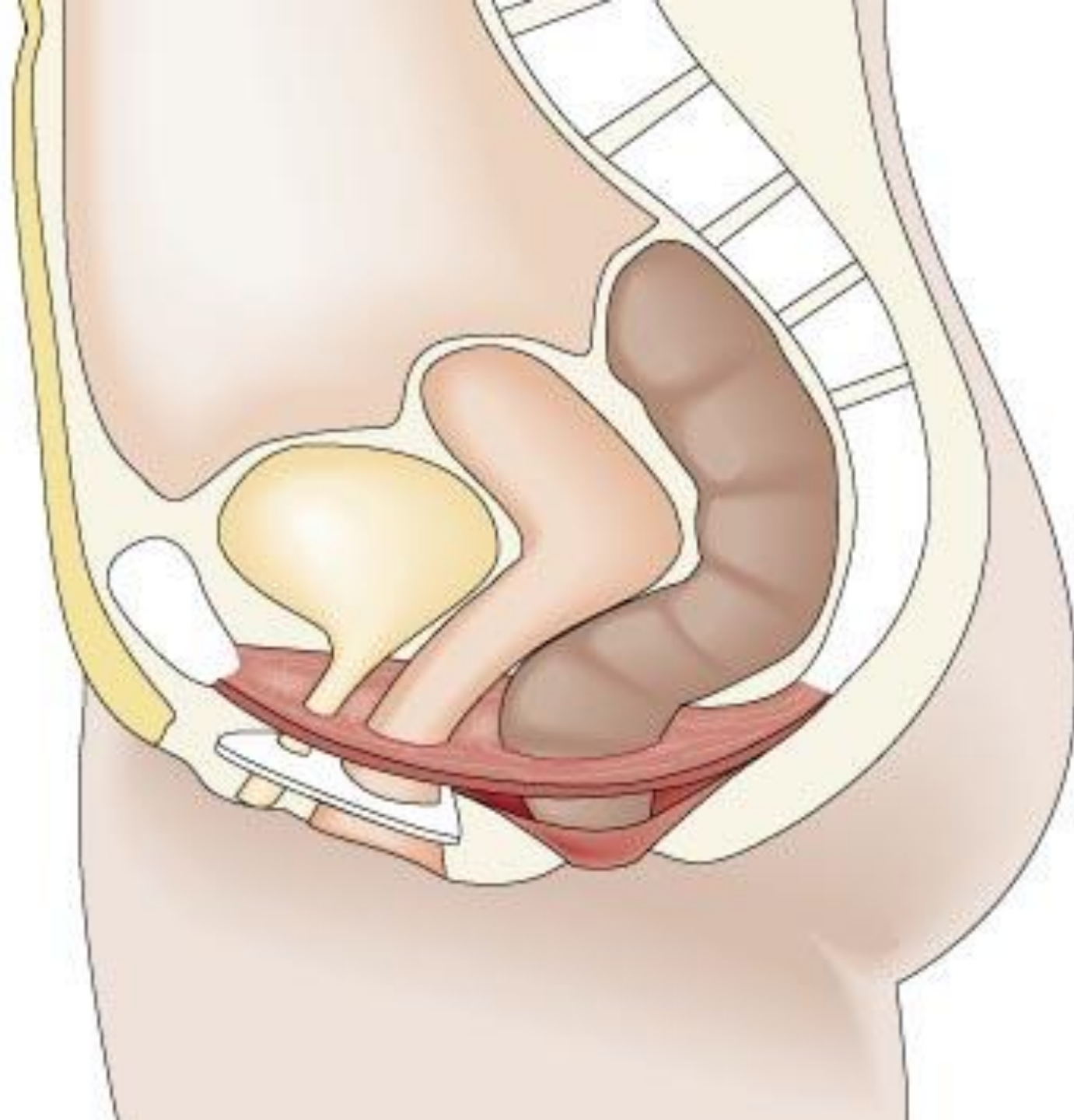
Pubocervical fascia

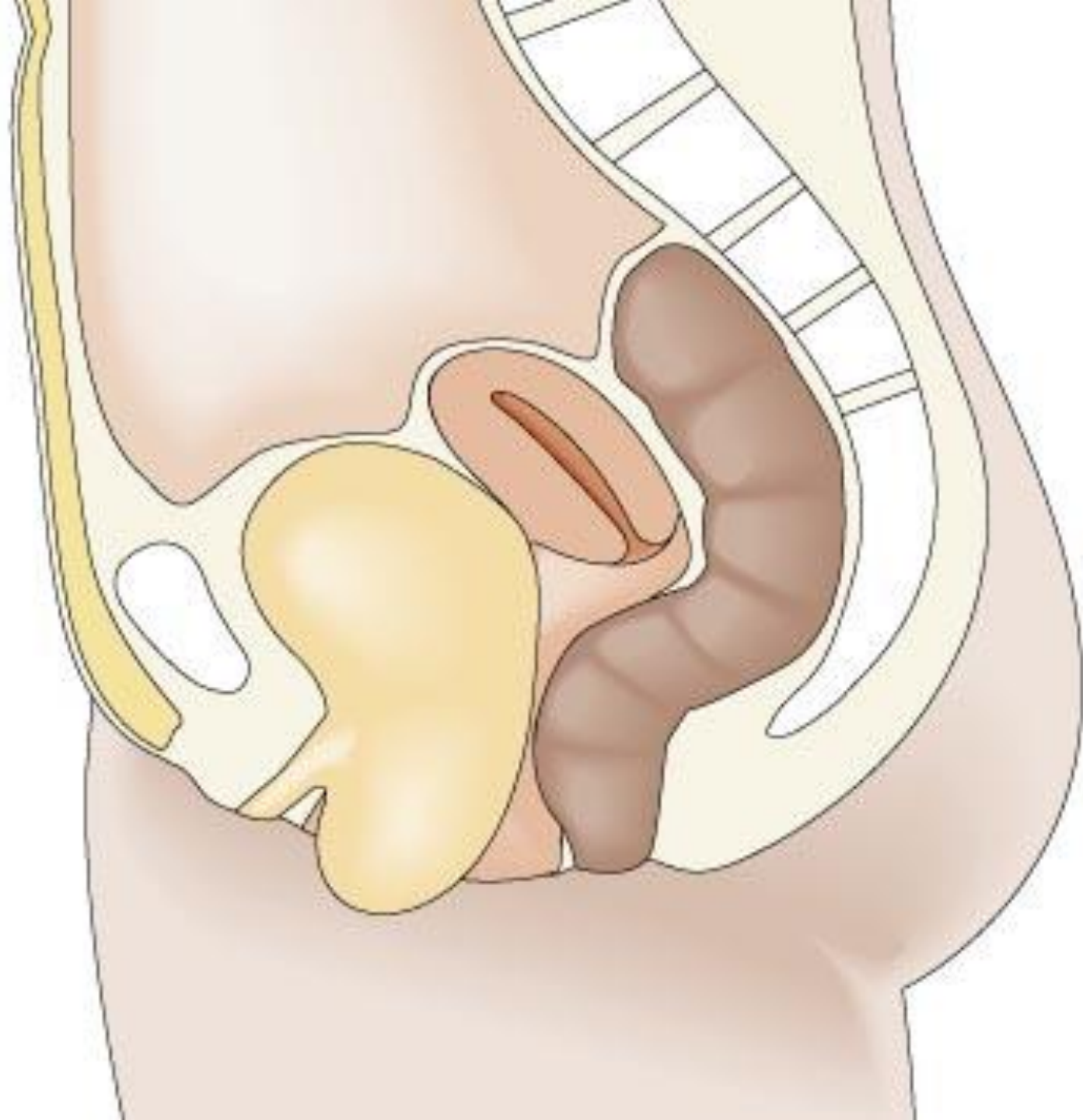
Rectovaginal fascia



**Level 1 (apical suspension) and level 2 (lateral attachment)** Level 1, paracolpium suspends the vaginal apex from the lateral pelvic sidewall via the uterosacral-cardinal complex. Level 2, the anterior vaginal wall is attached laterally to arcus tendinous fascia pelvis and the posterior vaginal wall is attached laterally to the fascia overlying the levator ani muscle. Reproduced with permission from: DeLancey, JD. Anatomic aspects of vaginal eversion after hysterectomy. Am J Obstet Gynecol 1992; 166(6 Pt 1):1717. Copyright © 1992 Elsevier Inc.

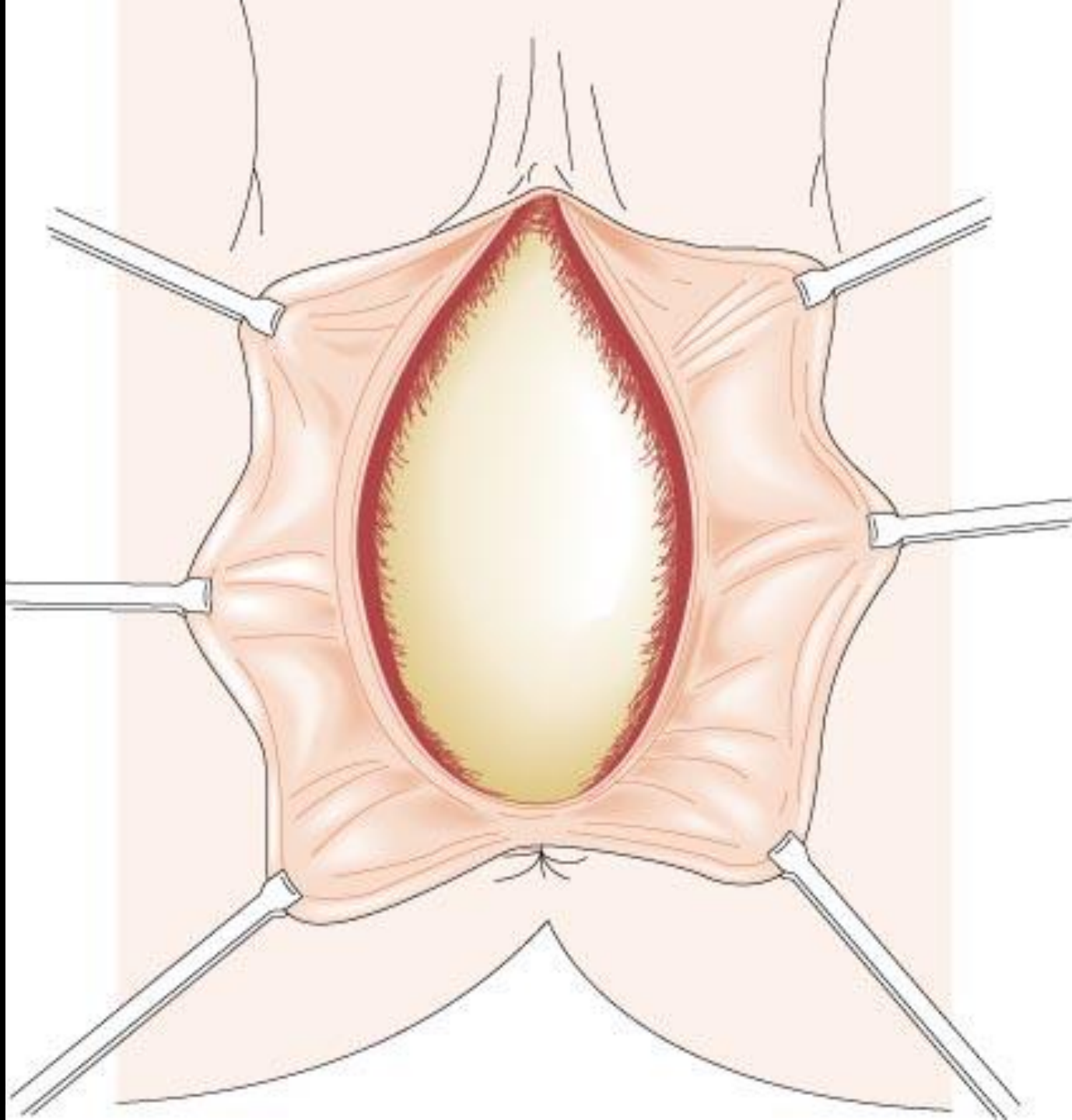


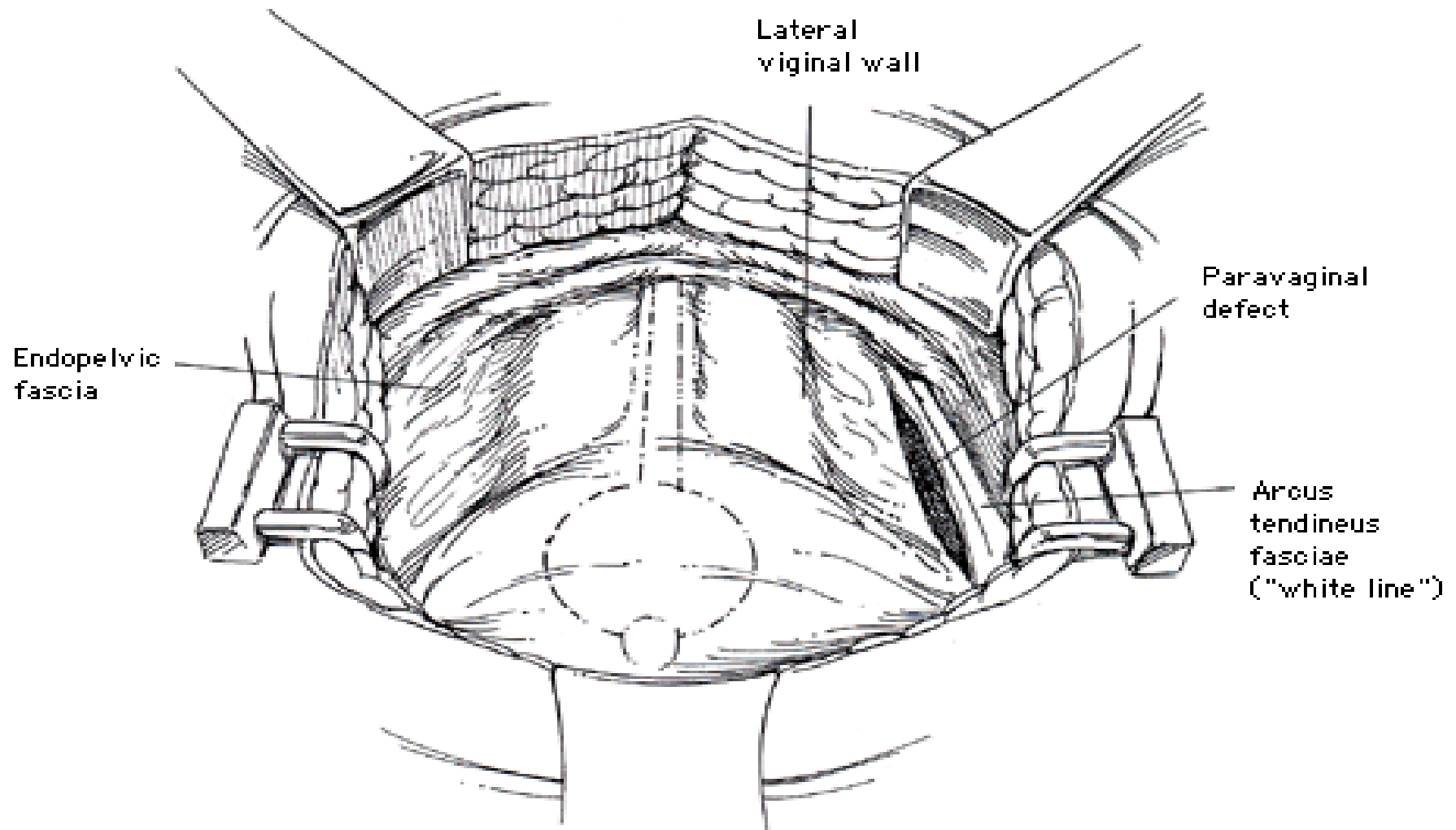




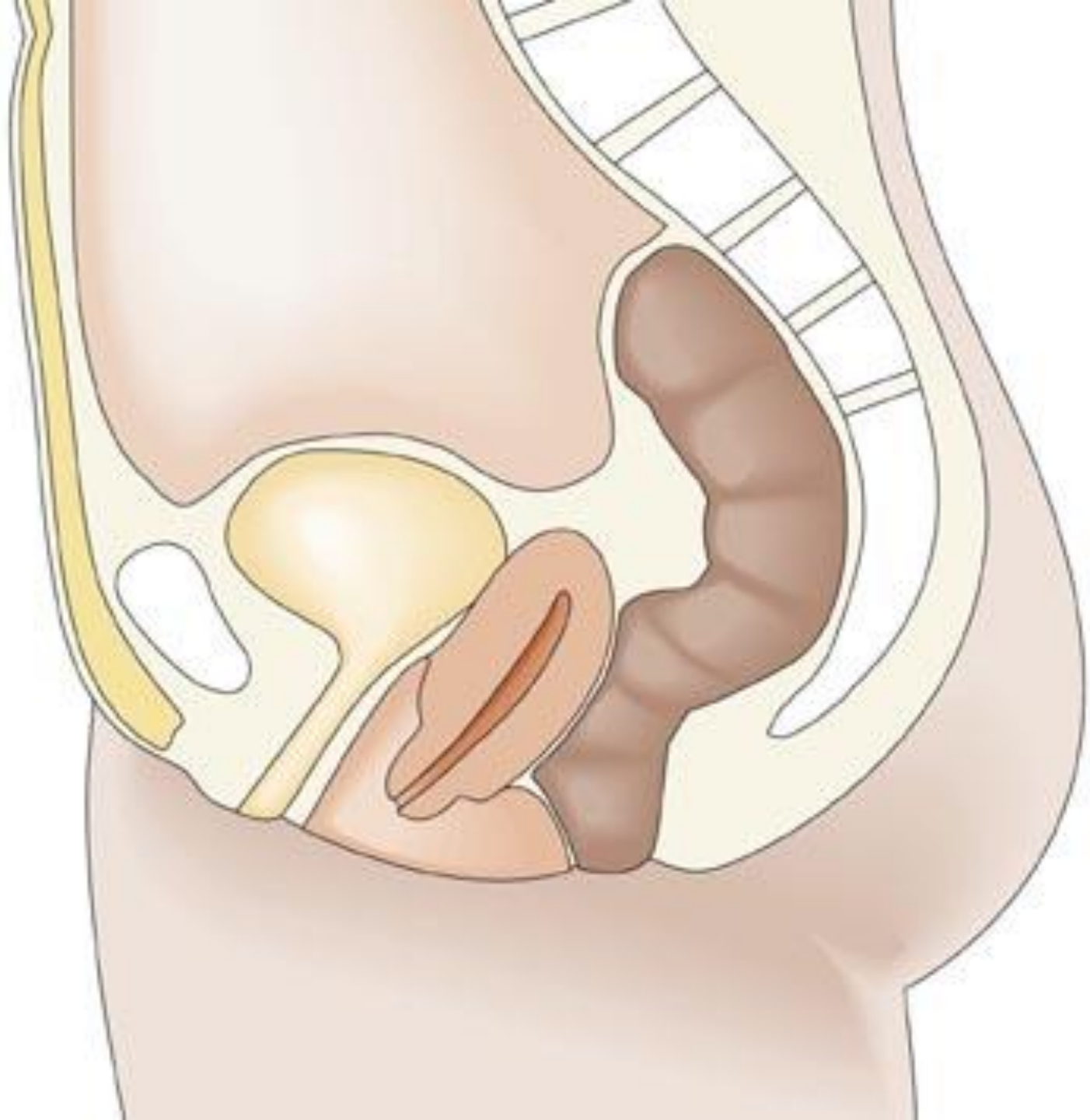
# Anterior Vaginal Wall Prolapse Cystocele

- Pathologic descent of the anterior vaginal wall and the overlying bladder base.
- Two Types
  1. Distension
  2. Displacement





**Paravaginal defect** Robinson, D, Norton, PA. Diagnosis and Management of Urinary Incontinence. In: Gynecologic Surgery. William, WM, Stovall, TG (Eds), Churchill Livingstone, New York 1996. p.718.



# Apical Prolapse

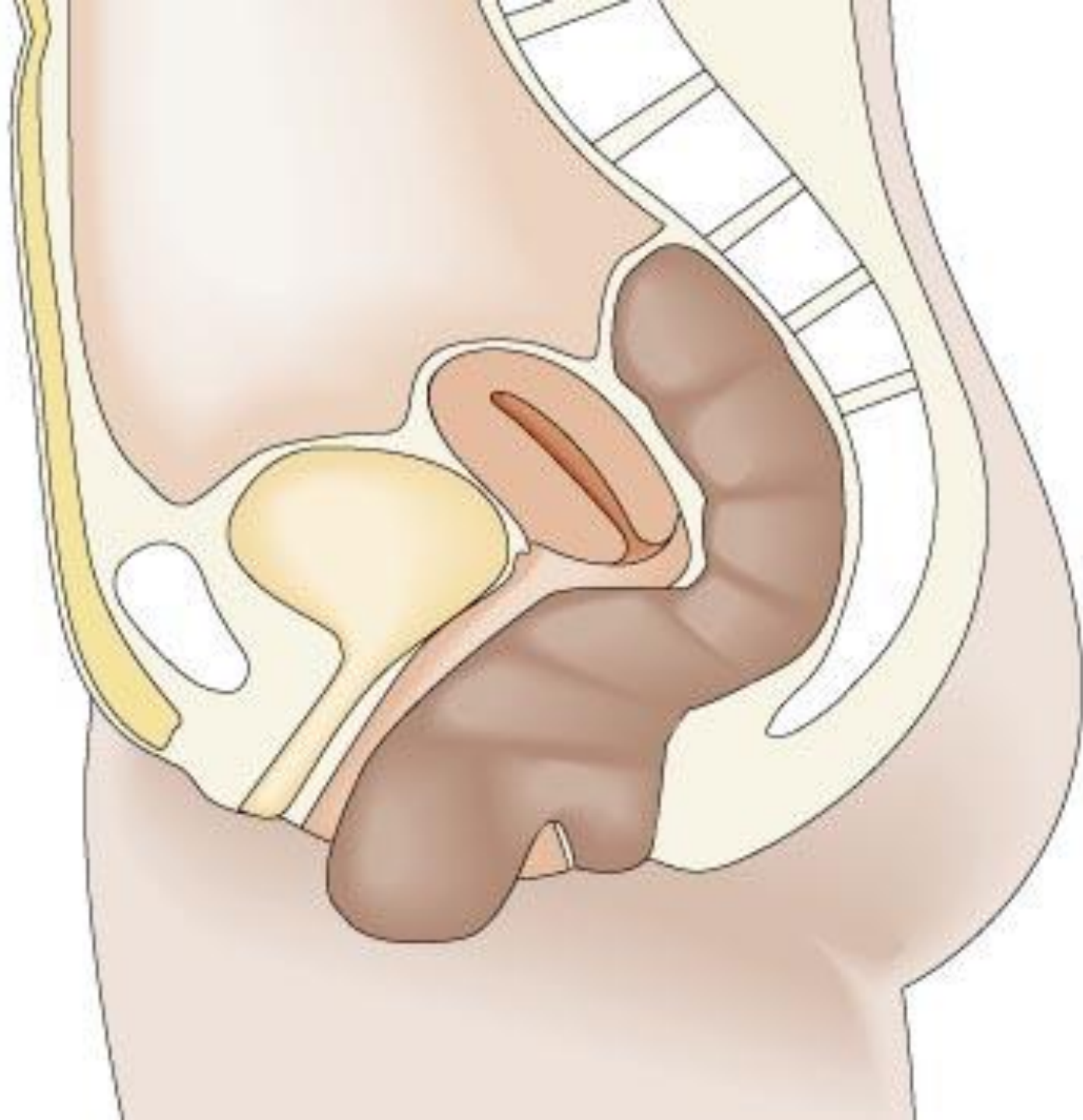
## Uterine and Vault

- Damage to the Uterosacral-Cardinal ligament Complex.

### Uterine Prolapse

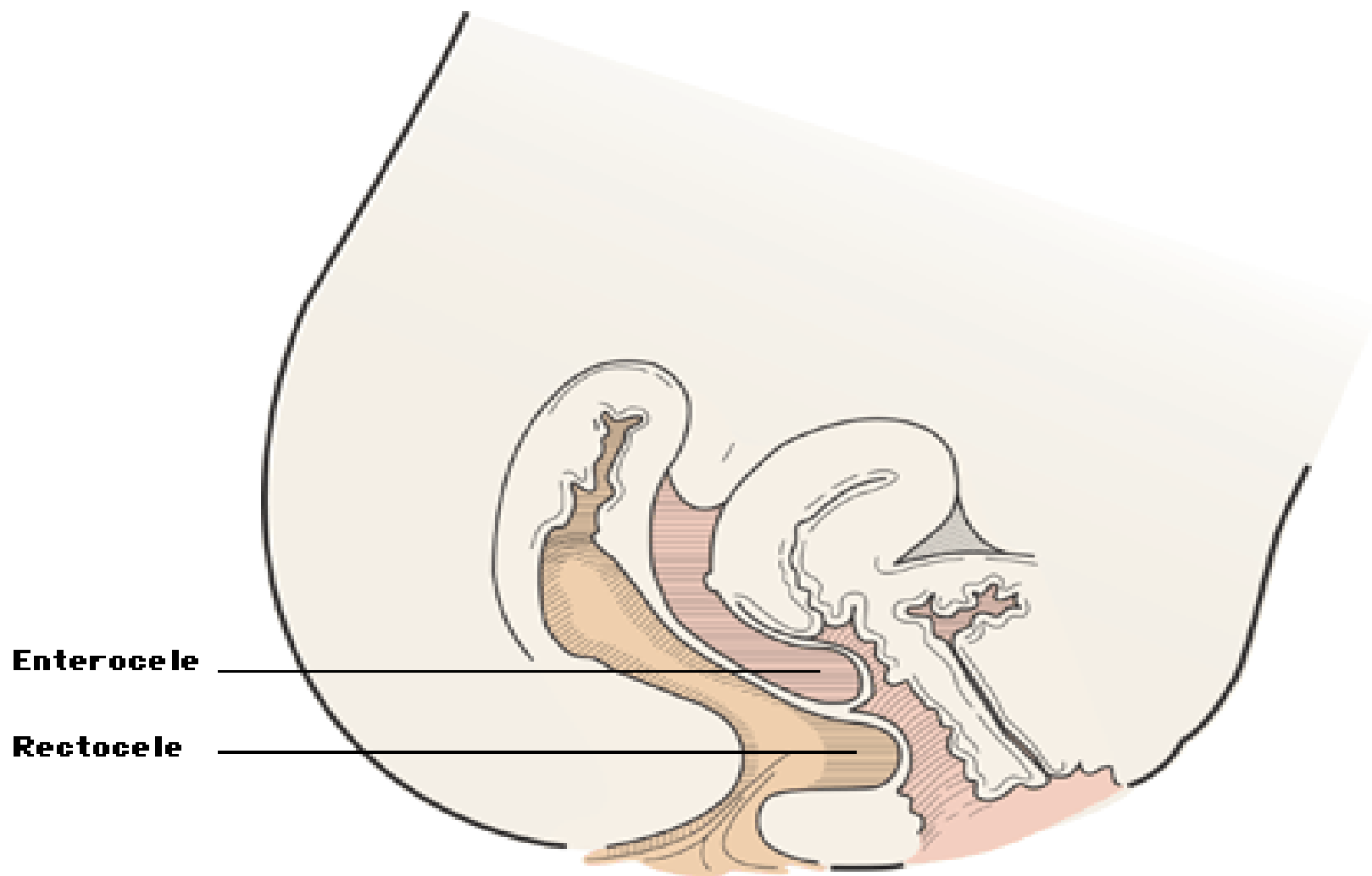
- Loss of the integrity of the anterior and posterior vaginal walls.

Post hysterectomy or vault



# Posterior Vaginal Wall Prolapse Rectocele and Enterocele

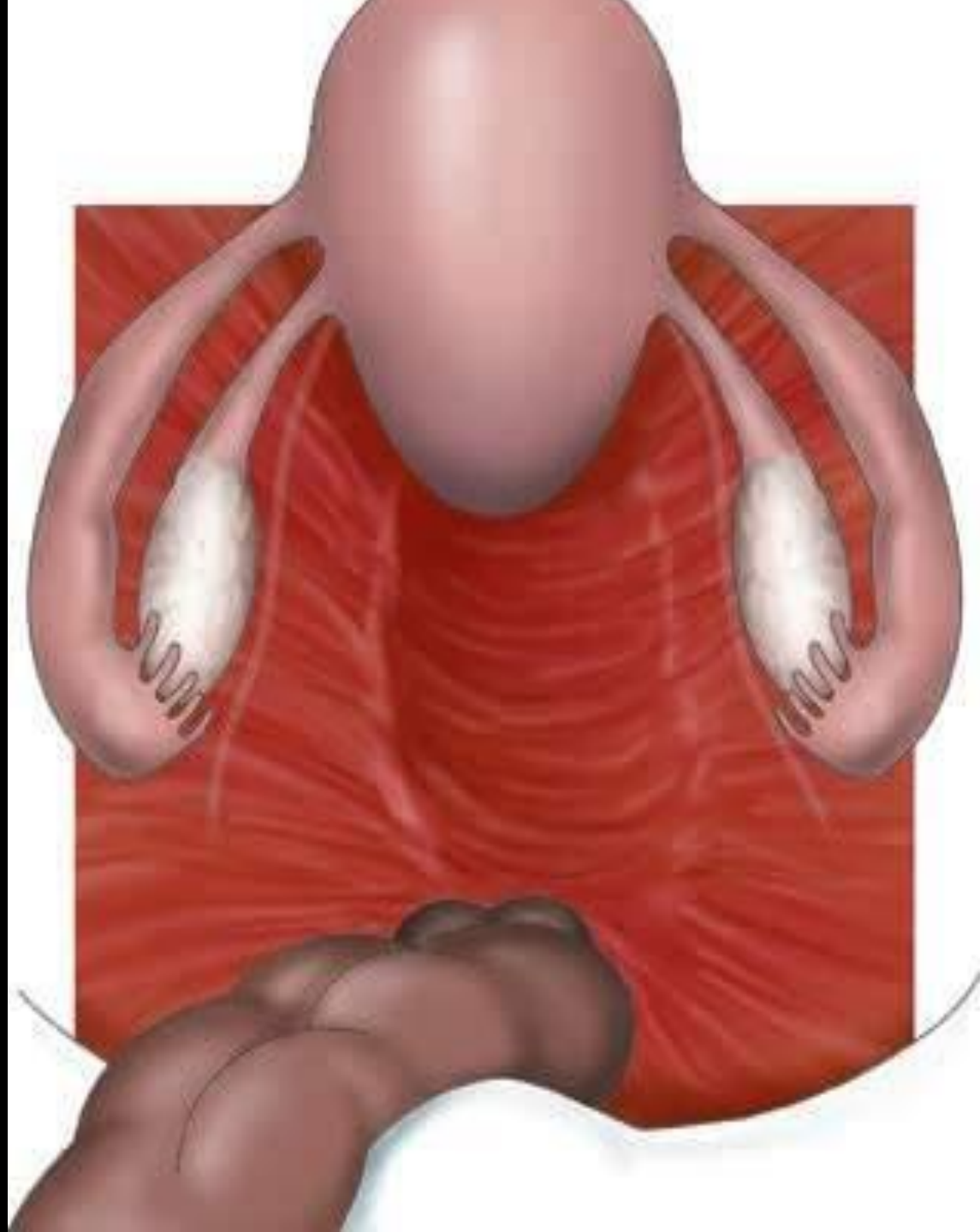
- **Enterocele:** is a hernia in which the peritoneum is in contact with the vaginal mucosa. **Absent endopelvic fascia.**
- **Rectocele:** Defect in the Rectovaginal Septum .

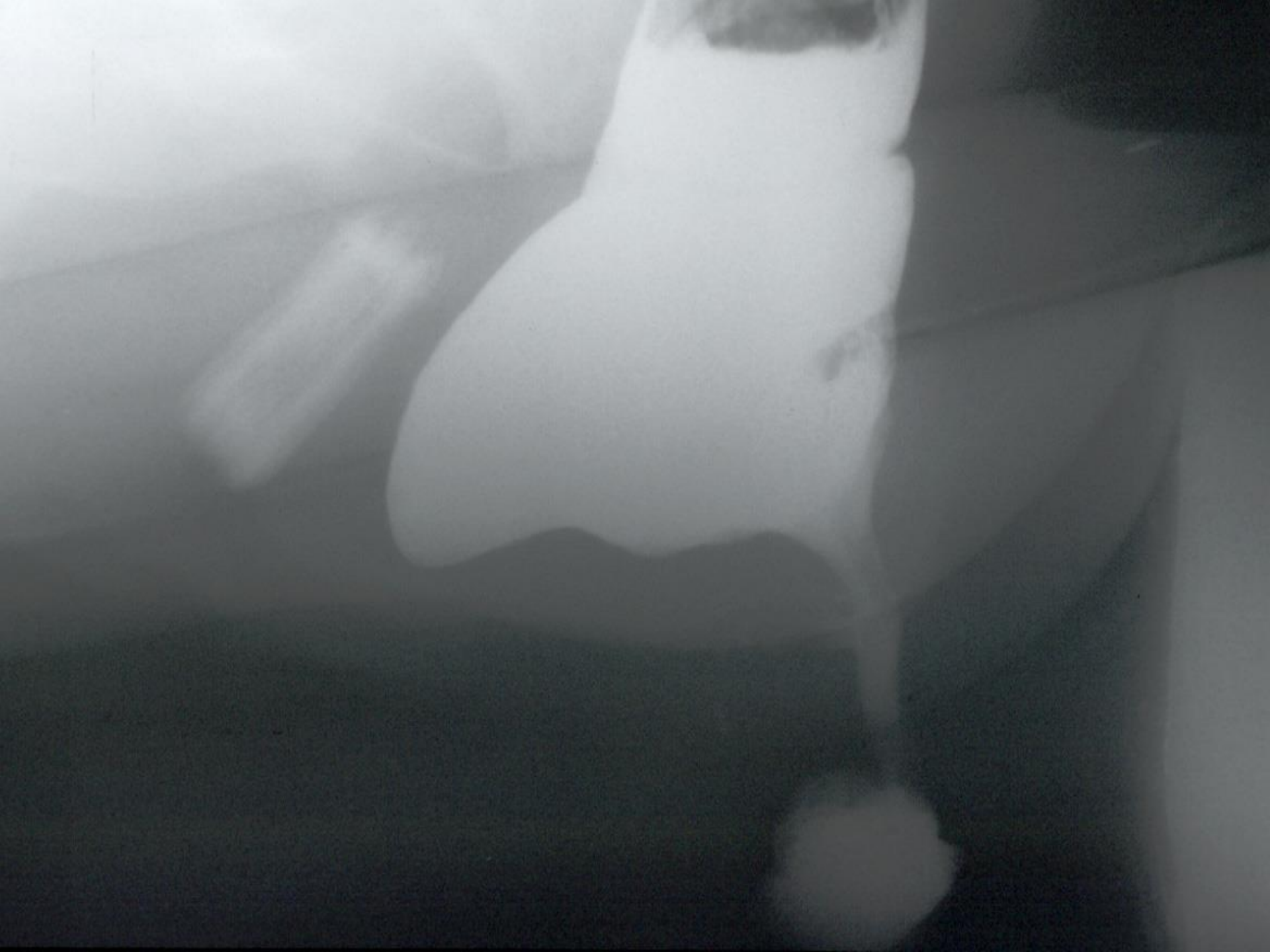


**Enterocele**

**Rectocele**

**Sagittal section of pelvis, showing relative position of rectocele and enterocele** Adapted from: Te Linde's Operative Gynecology, 6th Edition, Matingly RF and Thompson JD, editors. J.B. Lippincott Co., Philadelphia, 1985. Copyright © 1985 Lippincott Williams & Wilkins





# General Symptoms associated prolapse

- Bulge, heaviness, or dragging
- backache
- vaginal dryness or irritation
- need to push the prolapse back after straining (defecation)
- sexual activity embarrassing or painful

# Urinary tract dysfunction and prolapse

Stress urinary incontinence

Bladder neck hyper mobility

Urinary frequency and urgency

Occult stress incontinence

Voiding dysfunction

Recurrent UTI

Ureters



# Symptoms related to rectoceles

- Incomplete bowel emptying
- obstructed defecation
- constipation
- inability empty rectum without reducing prolapse
- fecal incontinence if rectal prolapse

## Patient Information

Data Collection Date  *No details available - record may*

1 (Number)

### History

#### General Surgery History

#### Examination

#### Urodynamics

#### Surveys

#### Surgery/Review/Summary

### Pelvic Floor History

Source

(0 = None; 1 = Occasional; 2 = Frequent)

Presenting Problems

Stress Incontinence

Urethral Pain

Constipation

Urgency

Bladder Pain

Rectal Soiling

Urge Incontinence

Dysuria

Obstructed Defaecation

Leakage Frequency

Haematuria

Chronic Cough

Leakage Severity

Post Dribbling

Aware Of Prolapse

Leakage Duration

Strains To Void

Sexually Active

Day Time Frequency

Incomplete Emptying

Dyspareunia

Nocturia

Insensible Leakage

Lack Sensation Sex

### General History

☐ First Degree Relative With Same Problem

☐ Hormone Replacement Therapy

Quality of Life

Cigarettes Per Day

Contraception

Menstrual Status

Smears

Urinary Tract Infection



\_\_\_\_\_

1

oNumber)

### General Surgery History

## Urodynamics

### Surgery/Review/Summary

\_\_\_\_\_

--

--

Vaginal

114

Abdominal

11

Year

[illegible]

Del

\_\_\_\_\_

# Patient Information

Data Collection Date  No details available - record may

1 (Number)

History General Surgery History Examination Urodynamics Surveys Surgery/Review/Summary

Date  Height (M)  Weight (KG)  0

Abdominal Examination (Tenderness, Masses, Scars, Hernias)

## Vaginal Examination

### Stage II

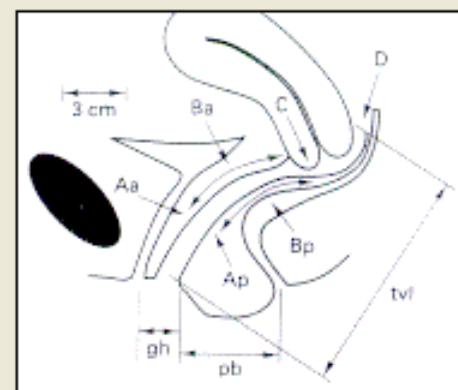
0  0  0 /  0  0  0

Point Aa  Point Ba  Point C

Genital Hiatus  Perineal Body  Total Vaginal Length

Point Ap  Point Bp  Point D

Vaginal Examination



Pain  Uterus  Anal Sphincter Tone

Epithilium  Stress Incontinence  S234 Outflow

Vaginal Capacity  Bladder Neck

**No details available - record may not be saved yet.**

65

67

(AutoN)

Uroynamics

Uroynamics Ward Test Urine

Date

Free Flow Rate (ML/SEC)

Volume Voided (ML)

First Residual (ML)

### Cystometry (ML)

Urgency (ML)

Capacity (ML)

Pressure Rise Fill (cmH2O)

Pressure Rise Provoc (cmH2O)

Cystometry Pattern

### Voiding (ML)

Maximum Voiding Pressure

Maximum Flow Rate (ML/Sec)

Volume Voided (ML)

Residual

Pattern

### Incontinence

Extent

Cause

Posture

Max. Urethral Closing Pressure

Bladder Neck Imaging

Diagnosis




Diagnosis Other

### Plan

☒ Uroynamics

☒ Antibiotics

☒ Anticholinergics

☒ Swabs

☒ Ultrasound Scan

☒ Cystoscopy

☒ Surgery

☒ IX Fecal Incontinence

☒ Cisc

☒ Urine Mcs

☒ Pelvic Floor Exercises

☒ IVP

☒ Urine Cytology

☒ Bladder Retraining

☒ Vagifem

Review

Pessary (MM)

Other

## Specialist Surgeries



**No details available - record may not be saved yet.**

65

67

(AutoN

Where

Anaesthetic

Date

Surgeon

Blood Loss (MLS)

Operating Time (Minutes)

Save

Surgeries

<<

>>

Sling  
TVT  
Colposuspension  
urethrolisis  
Laparoscopy  
Anterior Vaginal Repair

Complications

<<

>>

Cystotomy  
Enterotomy  
Urinary Tract Infection  
EBL > 500mls  
Ureteric Injury  
Blood Transfusion

# Grading System

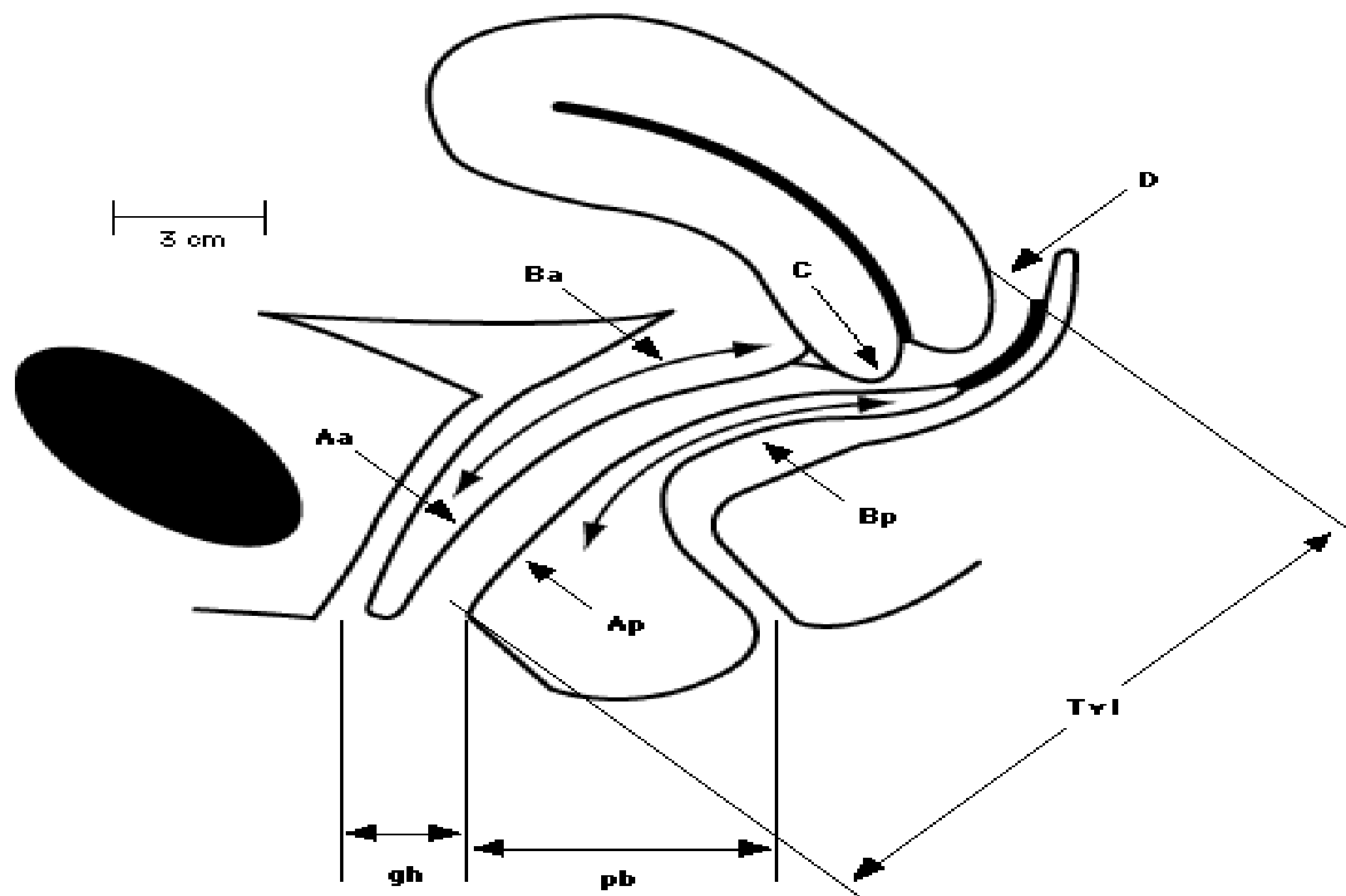
- **Cystocele** Anterior wall
  - 1<sup>st</sup> degree . Half way to the Hymen
  - 2<sup>nd</sup> degree . To the Hymen
  - 3d degree. Outside the Hymen
- **Uterine or Vault** Cervix or Vaginal apex
  - 1<sup>st</sup> degree.
  - 2<sup>nd</sup> degree.
  - 3d degree.

# Grading System

- **Rectocele** Posterior wall
  - 1<sup>st</sup> degree.
  - 2<sup>nd</sup> degree.
  - 3d degree.
- **Enterocele** enterocele sac
  - 1<sup>st</sup> degree
  - 2<sup>nd</sup> degree
  - 3d degree

# New Classification POP-Q System

- ICS 1996 Bump et al.  
Standardization of terminology  
Pelvic Organ Anatomy  
Site – Specific  
Quantitative  
Compartments or Segments.



**Pelvic organ support quantitation** Six sites (points Aa, Ba, C, D, Bp, Ap), genital hiatus (gh), perineal body (pb), and total vaginal length (tvI) used for pelvic organ support quantitation. (Reproduced with permission from Bump, RC, Mattiasson, A, Bø, K, et al, Am J Obstet Gynecol 1996; 175:10. Copyright ©1996 Mosby, Inc.)

## **Pelvic Organ Prolapse Staging†**

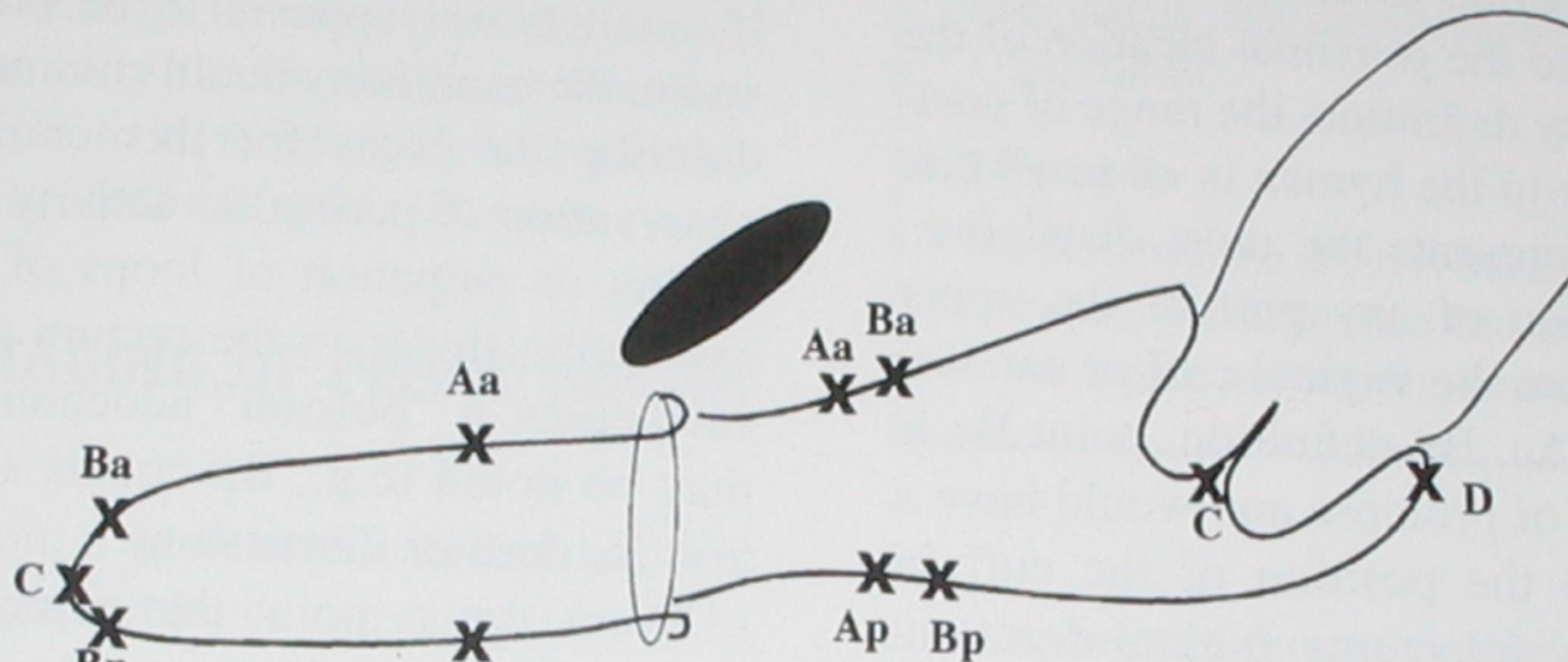
<b>Stage 0</b>	No prolapse Aa, Ba, Ap, Bp are $-3$ cm and C or D $\leq -(tvL - 2)$ cm
<b>Stage 1</b>	Most distal portion of the prolapse $-1$ cm (above the level of hymen)
<b>Stage 2</b>	Most distal portion of the prolapse $\geq -1$ cm but $\leq +1$ cm ( $\leq 1$ cm above or below the hymen)
<b>Stage 3</b>	Most distal portion of the prolapse $> +1$ cm but $< +(tvL - 2)$ cm (beyond the hymen; protrudes no farther than 2 cm less than the total vaginal length)
<b>Stage 4</b>	Complete eversion; most distal portion of the prolapse $\geq + (tvL - 2)$ cm

Aa = Point A of anterior wall; Ba = point B of anterior wall; Ap = point A of posterior wall; Bp = point B of posterior wall; -, above the hymen; +, beyond the hymen; tvL = total vaginal length.

† Reproduced with permission from Harvey, M-A, Versi, E. Urogynecology and pelvic floor dysfunction. In: Kistner's Gynecology and Women's Health, 7th ed, Ryan, KJ, Berkowitz, RS, Barbieri, RL, Dunaif, A (Eds), St. Louis, Mosby 1999. Copyright © 1999 Elsevier.

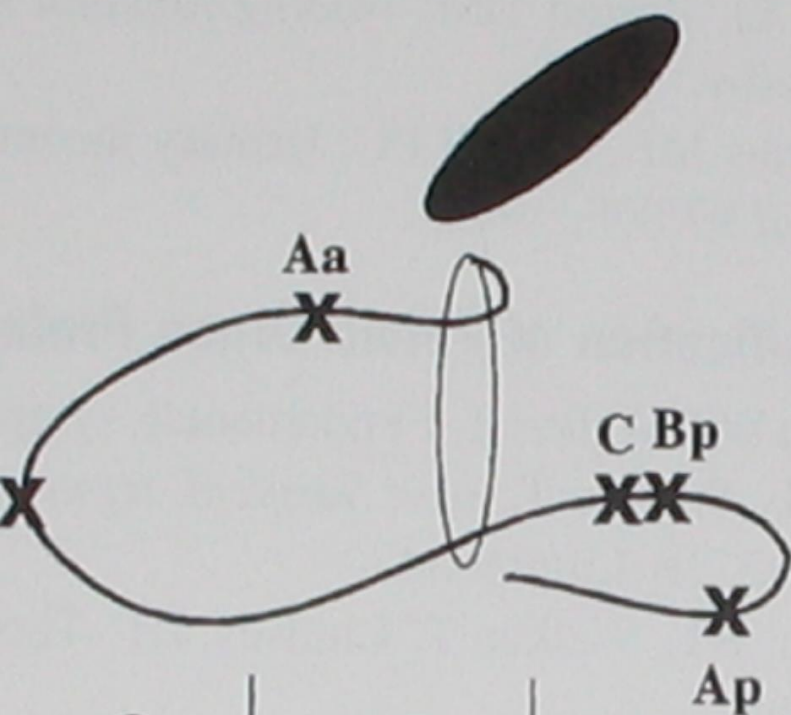
<b>Aa</b>	<b>Ba</b>	<b>C</b>
<b>gh</b>	<b>Pb</b>	<b>tvI</b>
<b>Ap</b>	<b>Bp</b>	<b>D</b>

**Three-by-three grid used to express the quantified pelvic organ prolapse (POP-Q) system** Aa = point A of the anterior wall; Ba = point B of the anterior wall; C = cervix or cuff; D = posterior fornix; gh = genital hiatus; pb = perineal body; tvI = total vaginal length; Ap = point A of the posterior wall; Bp = point B of the posterior wall. Reproduced with permission from Harvey, M-A, Versi, E. Urogynecology and pelvic floor dysfunction. In: Kistner's Gynecology and Women's Health, 7th ed, Ryan, KJ, Berkowitz, RS, Barbieri, RL, Dunaif, A (Eds), St. Louis, Mosby 1999. Copyright © 1999 Elsevier.

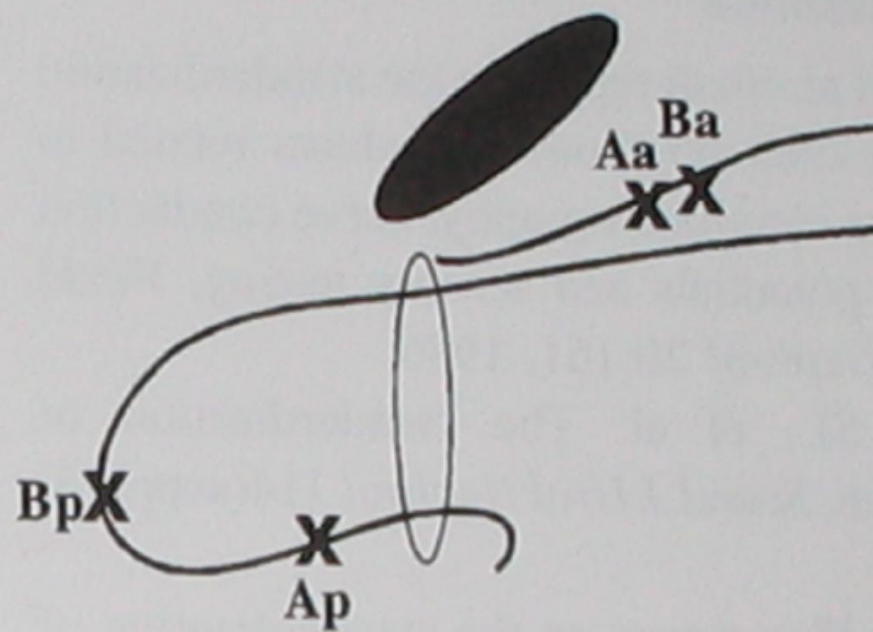


<b>+3</b> Aa	<b>+8</b> Ba	<b>+8</b> C
<b>4.5</b> gh	<b>1.5</b> pb	<b>8</b> tvl
<b>+3</b> Ap	<b>+8</b> Bp	--

<b>-3</b> Aa	<b>-3</b> Ba	<b>-8</b> C
<b>2</b> gh	<b>3</b> pb	<b>10</b> tvl
<b>-3</b> Ap	<b>-3</b> Bp	<b>-10</b> D



+3 <sub>Aa</sub>	+6 <sub>Ba</sub>	-2 <sub>C</sub>
4.5 <sub>gh</sub>	1.5 <sub>pb</sub>	6 <sub>tv</sub>
-3 <sub>Ap</sub>	-2 <sub>Bp</sub>	--



-3 <sub>Aa</sub>	-3 <sub>Ba</sub>	-6 <sub>C</sub>
4.5 <sub>gh</sub>	1 <sub>pb</sub>	8 <sub>tv</sub>
+2 <sub>Ap</sub>	+5 <sub>Bp</sub>	--

A. Grid and line diagram of predominant anterior support defect. Leading poi